

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Department  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-144  
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.  
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or

14468 Proposed Alternative Method Permit or Closure Plan Application

Type of action:  Below grade tank registration  
 Permit of a pit or proposed alternative method  
 Closure of a pit, below-grade tank, or proposed alternative method  
 Modification to an existing permit/or registration  
 Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

OIL CONS. DIV DIST. 3  
MAY 10 2016

**Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request**

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.  
Operator: Burlington Resources Oil & Gas Company, LP OGRID #: 14538  
Address: PO BOX 4289, Farmington, NM 87499  
Facility or well name: Culpepper Martin 8B / Culpepper Martin 8S  
API Number: 30-045-33120 / 30-045-34375 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr O Section 19 Township 32N Range 12W County: San Juan  
Center of Proposed Design: Latitude 36.966112 °N Longitude -108.134138 °W NAD:  1927  1983  
Surface Owner:  Federal  State  Private  Tribal Trust or Indian Allotment

2.  
 **Pit:** Subsection F, G or J of 19.15.17.11 NMAC  
Temporary:  Drilling  Workover  
 Permanent  Emergency  Cavitation  P&A  Multi-Well Fluid Management Low Chloride Drilling Fluid  yes  no  
 Lined  Unlined Liner type: Thickness \_\_\_\_\_ mil  LLDPE  HDPE  PVC  Other \_\_\_\_\_  
 String-Reinforced  
Liner Seams:  Welded  Factory  Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

3.  
 **Below-grade tank:** Subsection I of 19.15.17.11 NMAC  
Volume: \_\_\_\_\_ Max 120 bbl Type of fluid: Produced Water  
Tank Construction material: Metal  
 Secondary containment with leak detection  Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
 Visible sidewalls and liner  Visible sidewalls only  Other \_\_\_\_\_  
Liner type: Thickness 45 mil  HDPE  PVC  Other LLDPE

4.  
 **Alternative Method:**  
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.  
**Fencing:** Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)  
 Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)  
 Four foot height, four strands of barbed wire evenly spaced between one and four feet  
 Alternate. Please specify \_\_\_\_\_

6. **Netting:** Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- Screen  Netting  Other \_\_\_\_\_  
 Monthly inspections (If netting or screening is not physically feasible)

7. **Signs:** Subsection C of 19.15.17.11 NMAC

- 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers  
 Signed in compliance with 19.15.16.8 NMAC

8. **Variations and Exceptions:**

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

**Please check a box if one or more of the following is requested, if not leave blank:**

- Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.  
 Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9. **Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

**Instructions:** The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.

### General siting

**Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.**

- NM Office of the State Engineer - iWATERS database search;  USGS;  Data obtained from nearby wells

Yes  No  
 NA

**Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.**

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

Yes  No  
 NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)**

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

Yes  No

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)**

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

Yes  No

Within an unstable area. **(Does not apply to below grade tanks)**

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

Yes  No

Within a 100-year floodplain. **(Does not apply to below grade tanks)**

- FEMA map

Yes  No

### Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

Yes  No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

Yes  No

**Temporary Pit using Low Chloride Drilling Fluid** (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

- Topographic map; Visual inspection (certification) of the proposed site

Yes  No

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

Yes  No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application.

NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

Yes  No

Within 100 feet of a wetland.  
 - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site  Yes  No

**Temporary Pit Non-low chloride drilling fluid**

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  
 - Topographic map; Visual inspection (certification) of the proposed site  Yes  No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  
 - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  Yes  No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;  
 - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site  Yes  No

Within 300 feet of a wetland.  
 - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site  Yes  No

**Permanent Pit or Multi-Well Fluid Management Pit**

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  
 - Topographic map; Visual inspection (certification) of the proposed site  Yes  No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  
 - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  Yes  No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.  
 - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site  Yes  No

Within 500 feet of a wetland.  
 - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site  Yes  No

**10. Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC  
*Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*

- Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
  - Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
  - Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
  - Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
  - Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
  - Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

**11. Multi-Well Fluid Management Pit Checklist:** Subsection B of 19.15.17.9 NMAC  
*Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*

- Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
  - Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
  - A List of wells with approved application for permit to drill associated with the pit.
  - Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
  - Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
  - Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

12.

**Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC

**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Climatological Factors Assessment
- Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- Quality Control/Quality Assurance Construction and Installation Plan
- Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan
- Emergency Response Plan
- Oil Field Waste Stream Characterization
- Monitoring and Inspection Plan
- Erosion Control Plan
- Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.

**Proposed Closure:** 19.15.17.13 NMAC

**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type:  Drilling  Workover  Emergency  Cavitation  P&A  Permanent Pit  Below-grade Tank  Multi-well Fluid Management Pit  
 Alternative
- Proposed Closure Method:  Waste Excavation and Removal  
 Waste Removal (Closed-loop systems only)  
 On-site Closure Method (Only for temporary pits and closed-loop systems)  
 In-place Burial  On-site Trench Burial  
 Alternative Closure Method

14.

**Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

**Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

**Instructions:** Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

- |   |   |
|---|---|
| Ground water is less than 25 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is between 25-50 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).<br>- Topographic map; Visual inspection (certification) of the proposed site                        | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.<br>- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet of a wetland.<br>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

16.  
**On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
 Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC  
 Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC  
 Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC  
 Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC  
 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC  
 Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC  
 Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)  
 Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  
 Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  
 Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.  
**Operator Application Certification:**  
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

18.  
**OCD Approval:**  Permit Application (including closure plan)  ~~Closure Plan (only)~~  OCD Conditions (see attachment)

OCD Representative Signature: Janessa [Signature] Approval Date: 5/11/2016  
Title: Environmental Specialist OCD Permit Number: \_\_\_\_\_

19.  
**Closure Report (required within 60 days of closure completion):** 19.15.17.13 NMAC  
*Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*

Closure Completion Date: 3/31/2016

20.  
**Closure Method:**  
 Waste Excavation and Removal  On-Site Closure Method  Alternative Closure Method  Waste Removal (Closed-loop systems only)  
 If different from approved plan, please explain.

21.  
**Closure Report Attachment Checklist:** *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

Proof of Closure Notice (surface owner and division)  
 Proof of Deed Notice (required for on-site closure for private land only)  
 Plot Plan (for on-site closures and temporary pits)  
 Confirmation Sampling Analytical Results (if applicable)  
 Waste Material Sampling Analytical Results (required for on-site closure)  
 Disposal Facility Name and Permit Number  
 Soil Backfilling and Cover Installation  
 Re-vegetation Application Rates and Seeding Technique  
 Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude \_\_\_\_\_ °N \_\_\_\_\_ Longitude \_\_\_\_\_ °W NAD:  1927  1983

**Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print) Crystal Walker Title: Regulatory Coordinator

Signature:  Date: 5/4/16

e-mail address: crystal.walker@cop.com Telephone: (505) 326-9837

**Burlington Resources Oil & Gas Company**  
**San Juan Basin: New Mexico Assets**  
Below Grade Tank Closure Report

**Lease Name:** Culpepper Martin 8S / Culpepper Martin 8B  
**API No.:** 30-045-34375 / 30-045-33120

In accordance with Rule 19.15.17.13 NMAC, the following information describes the closure of the below-grade tank referenced above. All proper documentation regarding closure activities is being included with the C-144.

**General Plan Requirements:**

1. Prior to initiating any BGT closure, except in the case of an emergency, BR will notify the surface owner of the intent to close the BGT by certified mail no later than 72 hours or one week before closure and a copy of this notification will be included in the closure report. In the case of an emergency, the surface owner will be notified as soon as practical.

**The surface owner was notified by certified mail of the closure process and the notification is attached.**

2. Notice of closure will be given to the District Division office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following:
  - a. Operators Name
  - b. Well Name and API Number
  - c. Location

**Notification is attached.**

3. All liquids will be removed from the BGT following cessation of operation. Produced water will be disposed of at one of COP's approved Salt Water Disposal facilities or at a District Division approved facility.

**All recovered liquids were disposed of at an approved SWD facility or an approved District Division facility within 60 days of cessation of operation.**

4. Solids and sludge's will be shoveled and/or vacuumed out for disposal at one of the District Division approved facilities, depending on the proximity of the BGT site: Envirotech Land Farm (Permit #NM-01-011), JFJ Land Farm % Industrial Ecosystems Inc. (Permit #NM-01-0010B), and Basin Disposal (Permit #NM-01-005).

**Any sludge or soil required to be removed to facilitate closure was transported to Envirotech Land Farm (Permit # NM-01-011) and/or JFJ Landfarm % IEI (Permit# NM-01-0010B).**

5. BR will obtain prior approval from District Division to dispose, recycle, reuse, or reclaim the BGT and provide documentation of the disposition of the BGT in the closure report. Steel materials will be recycled or reused as approved by the District Division. Fiberglass tanks will be empty, cut up or shredded, and EPA cleaned for disposal as solid waste. Liner materials will be cleaned without soils or contaminated material for disposal as solid waste. Fiberglass tanks and liner materials will meet the conditions of 19.15.35 NMAC. Disposal will be at a licensed disposal facility, presently San Juan County Landfill operated by Waste Management under NMED Permit SWM-052426.

**The below-grade tank was disposed of in a division-approved manner. The liner was cleaned per 19.15.35.8.C(1)(m) NMAC and disposed of at the San Juan County Regional Landfill located on CR 3100.**

6. Any equipment associated with the BGT that is no longer required for some other purpose, following the closure, will be removed.

**All on-site equipment associated with the below-grade tank was removed.**

7. Following removal of the tank and any liner material, BR will test the soils beneath the BGT as follows:
  - a. At a minimum, a five-point composite sample will be taken to include any obvious stained or wet soils or any other evidence of contamination.
  - b. The laboratory sample shall be analyzed for the constituents listed in Table I of 19.15.17.13.

**A five point composite sample was taken of the below-grade tank using sampling tools and all samples tested per Table I of 19.15.17.13 and the results are attached.**

8. If the District Division and/or BR determine there is a release, BR will comply with 19.15.17.13.C.3b.

**A release was not determined for the above referenced well.**

9. Upon completion of the tank removal, pursuant to 19.15.17.13.C.3c, if all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, the excavation will be backfilled with non-waste earthen material compacted and covered with a minimum of one foot top soil or background thickness whichever is greater and to existing grade. The surface will be re-contoured to match the native grade and to prevent ponding.

**The tank removal area passed all requirements of Table I of 19.15.17.13 NMAC and was backfilled with compacted, non-waste containing, earthen material which included at least one foot of suitable material to establish vegetation at the site.**

10. For those portions of the former BGT area no longer required for production activities, BR will seed the disturbed area the first favorable growing season after the BGT is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by other District Division-approved methods. BR will notify the District Division when reclamation and re-vegetation is complete.

Reclamation of the BGT shall be considered complete when:

- Vegetative cover reflects a life form ratio of +/- 50% of pre disturbance levels.
- Total percent plant cover of at least 70% of pre-disturbance levels (Excluding noxious weeds) OR
- Pursuant to 19.15.17.13.H.5d BR will comply with obligations imposed by other applicable federal or tribal agencies in which there re-vegetation and reclamation requirements provide equal or better protection of fresh water, human health and the environment.

**Provision 10 will be accomplished pursuant to 19.15.17.H.5d and notification will be submitted upon completion.**

11. For those portions of the former BGT area required for production activities, reseeding will be done at well abandonment, and following the procedure noted above.

**The former BGT area is not required for production activities and reseeding will be completed per the procedure noted above.**

**Closure Report:**

All closure activities will include proper documentation and will be submitted to OCD within 60 days of the BGT closure on a Closure Report using District Division Form C-144. The Report will include the following:

- Proof of Closure Notice (surface owner and District Division) **(Attached)**
- Backfilling & cover installation **(See Report)**
- Confirmation Sampling Analytical Results **(Attached)**
- Application Rate & Seeding techniques **(See Report)**
- Photo Documentation of Reclamation **(Attached)**

## Walker, Crystal

---

**From:** Roberts, Kelly G  
**Sent:** Wednesday, March 23, 2016 9:20 AM  
**To:** 'Cory Smith'; 'Fields, Vanessa, EMNRD'; 'Flaniken, Mike (Mike\_Flaniken@blm.gov)'; 'Katherina Diemer (kdiemer@blm.gov)'  
**Cc:** Farrell, Juanita R; GRP:SJBU Regulatory; Jones, Lisa; SJBU E-Team  
**Subject:** Culpepper Martin 8S (3004534375) 72 Hour BGT Closure Notification

**Subject: 72 Hour BGT Closure Notification**

**Anticipated Start Date:** Thursday March 31, 2016

The subject well has a below-grade tank that will begin the closure process between 72 hours and one week from this notification. Please contact me at any time if you have any questions or concerns.

**Well Name:** CULPEPPER MARTIN 8S

**API#:** 30-045-34375

**Location:** Unit O (SW/SE), Section 19, T 32N, R 12W, San Juan County, New Mexico

**Footages:** 685' FSL & 1915' FEL

**Operator:** Burlington Resources

**Surface Owner:** FEE

*Kelly G. Roberts*

ConocoPhillips Co.  
Rockies Business Unit  
San Juan Asset  
Regulatory Technician  
505-326-9775  
505-330-7921



Juanita Farrell  
Analyst  
Surface Land

ConocoPhillips Company  
3401 E. 30<sup>th</sup> Street  
PO Box 4289  
Farmington, NM 87499-1429  
(505) 326-9597  
(505) 324-6136

CERTIFIED MAIL – RETURN RECEIPT REQUESTED  
9290 9969 0099 9703 2387 08

March 23, 2016

Mr. Louis Montoya  
Montoya Cattle Company  
1610 NM 170  
La Plata, NM 87418

Re: **Culpepper Martin 8S**  
API: 30-045-34375  
Unit O (SW/SE), Section 19, T 32N, R 12W,  
San Juan County, New Mexico

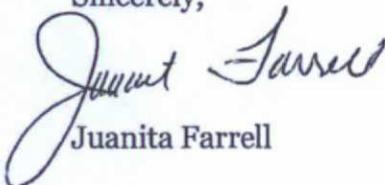
Dear Landowner:

Pursuant to New Mexico Administrative Code § 19.15.17.13 (E) (1) operator shall provide the surface owner of the operator's proposal to close a below-grade tank.

In compliance with this requirement, please consider this letter as notification that ConocoPhillips intends to close a below-grade tank on the subject well pad. The closure process will begin between 72 hours and one week from this notification.

If you have any questions, please contact the Surface Land Department at (505) 324-6111.

Sincerely,



Juanita Farrell

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised August 8, 2011

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit 1 Copy to appropriate District Office to  
accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company <b>Burlington Resources Oil &amp; Gas Co.</b>	Contact <b>Crystal Walker</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 326-9837</b>
Facility Name: <b>Culpepper Martin 8B / Culpepper Martin 8S</b>	Facility Type: <b>Gas Well</b>

Surface Owner <b>FEE</b>	Mineral Owner <b>FEE</b>	API No. <b>3004533120 / 3004534375</b>
--------------------------	--------------------------	--

**LOCATION OF RELEASE**

Unit Letter <b>O</b>	Section <b>19</b>	Township <b>32N</b>	Range <b>12W</b>	Feet from the	North/South Line	Feet from the	East/West Line	County <b>San Juan</b>
-------------------------	----------------------	------------------------	---------------------	---------------	------------------	---------------	----------------	---------------------------

Latitude 36.966112 Longitude -108.134138

**NATURE OF RELEASE**

Type of Release	Volume of Release	Volume Recovered
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*  
N/A

Describe Cause of Problem and Remedial Action Taken.\*  
No release was encountered during the BGT Closure.

Describe Area Affected and Cleanup Action Taken.\*  
N/A

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Crystal Walker	Approved by Environmental Specialist:	
Title: Regulatory Coordinator	Approval Date:	Expiration Date:
E-mail Address: crystal.walker@cop.com	Conditions of Approval:	
Date: <u>5/4/16</u> Phone: (505) 326-9837	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

# **Rule** Engineering, LLC

Solutions to Regulations for Industry

---

April 22, 2016

Ms. Lisa Hunter  
ConocoPhillips  
San Juan Business Unit  
5525 Highway 64  
Farmington, New Mexico 87401

**Re: Culpepper Martin #8S  
Below Grade Tank Closure Sampling Report**

Dear Ms. Hunter:

This report summarizes the below grade tank (BGT) closure sampling activities conducted by Rule Engineering, LLC (Rule) at the ConocoPhillips Culpepper Martin #8S located in Unit Letter O, Section 19, Township 32N, Range 12W in San Juan County, New Mexico. Activities included collection and analysis of a 5-point composite soil confirmation sample from beneath the BGT on March 31, 2016. A topographic map of the location is included as Figure 1 and an aerial site map is included as Figure 2.

## **BGT Summary**

**Site Name** – Culpepper Martin #8S

**Location** – Unit Letter O, Section 19, Township 32N, Range 12W

**API Number** – 30-045-34375

**Wellhead Latitude/Longitude** – N36.96640 and W108.13389

**BGT Latitude/Longitude** – N36.96611 and W108.13414

**Land Jurisdiction** – Private

**Size of BGT** – 120 barrels

**Date of BGT Closure Soil Sampling** – March 31, 2016

## **BGT Closure Standards**

As outlined in 19.15.17.13 New Mexico Administrative Code (NMAC), BGT closure standards for the Culpepper Martin #8S are as follows: 10 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), 100 mg/kg total petroleum hydrocarbons (TPH), and 600 mg/kg chlorides.

## **Field Activities**

On March 31, 2016, following removal of the BGT tank and liner, Rule personnel conducted a visual inspection for surface/subsurface indications of a release. No evidence of a release was observed. Rule personnel then collected five soil samples (S-1 through S-5) from 0.5 feet beneath the floor of the BGT excavation. Figure 2 provides the location of the soil samples collected from below the BGT. The field work summary sheet is attached.

### **Soil Sampling**

The five soil samples (S-1 through S-5) collected from below the floor of the BGT excavation were combined to create soil confirmation sample SC-1. A portion of SC-1 was field screened for volatile organic compounds (VOCs) and chlorides, and field analyzed for TPH.

Field screening for VOC vapors was conducted with a photo-ionization detector (PID). Prior to field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas. Field analysis for TPH was conducted per U.S. Environmental Protection Agency (USEPA) Method 418.1, utilizing a total hydrocarbon analyzer. Prior to field analysis, the machine was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards. Field screening for chloride was conducted using the Hach chloride low range test kit. Chloride concentrations were determined by drop count titration method using silver nitrate titrant.

The portion of SC-1 collected for laboratory analysis was placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. The sample was analyzed for BTEX per USEPA Method 8021B, TPH per USEPA Method 418.1, and chlorides per USEPA Method 300.0.

### **Field and Analytical Results**

Field sampling results for soil confirmation sample SC-1 indicated a VOC concentration of 0.0 ppm and a TPH concentration of less than 20.0 mg/kg. Field chloride concentrations were reported at 20 mg/kg.

Laboratory analytical results for sample SC-1 reported benzene and total BTEX concentrations below the laboratory reporting limits of 0.023 mg/kg and 0.207 mg/kg, respectively. Laboratory analytical results for SC-1 reported the TPH concentration below the laboratory reporting limit of 18 mg/kg. The laboratory analytical result for chloride concentration was below the laboratory reporting limit of 7.5 mg/kg. Field and laboratory results for SC-1 are summarized in Table 1, and the analytical laboratory report is attached.

### **Conclusions**

On March 31, 2016, BGT closure sampling activities were conducted at the ConocoPhillips Culpepper Martin #8S. Field and laboratory results for confirmation sample SC-1 were reported below the BGT closure standards for benzene, total BTEX, TPH, and chlorides as outlined in 19.15.17.13 NMAC. Based on field sampling and laboratory analytical results, no release occurred from the BGT and no further work is recommended.

Ms. Lisa Hunter  
Culpepper Martin #8S  
April 22, 2016  
Page 3 of 3

Rule Engineering appreciates the opportunity to provide services to ConocoPhillips.  
If you have any questions, please contact me at (505) 325-1055.

Sincerely,  
**Rule Engineering, LLC**



Justin Valdez  
Staff Geologist



Heather M. Woods, P.G.  
Area Manager/Geologist

**Attachments:**

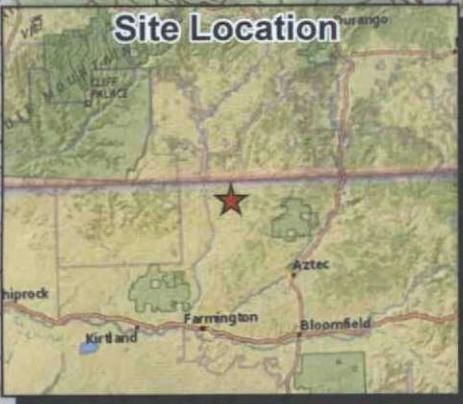
Table 1. BGT Soil Sampling Results  
Figure 1. Topographic Map  
Figure 2. Aerial Site Map  
Field Work Summary Sheet  
Analytical Laboratory Report

**Table 1. BGT Soil Sampling Results**  
**ConocoPhillips**  
**Culpepper Martin #8S**  
**San Juan County, New Mexico**

Sample ID	Date	Sample Type	Sample Depth (ft below BGT liner)	Field Sampling Results			Laboratory Analytical Results			
				VOCs (PID) (ppm)	TPH - 418.1 (mg/kg)	Chloride** (mg/kg)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - 418.1 (mg/kg)	Chloride*** (mg/kg)
<b>BGT Closure Standards*</b>				--	100	600	10	50	100	600
SC-1	3/31/16	Composite	0.5	0.0	<20.0	20	<0.023	<0.207	<18	<7.5

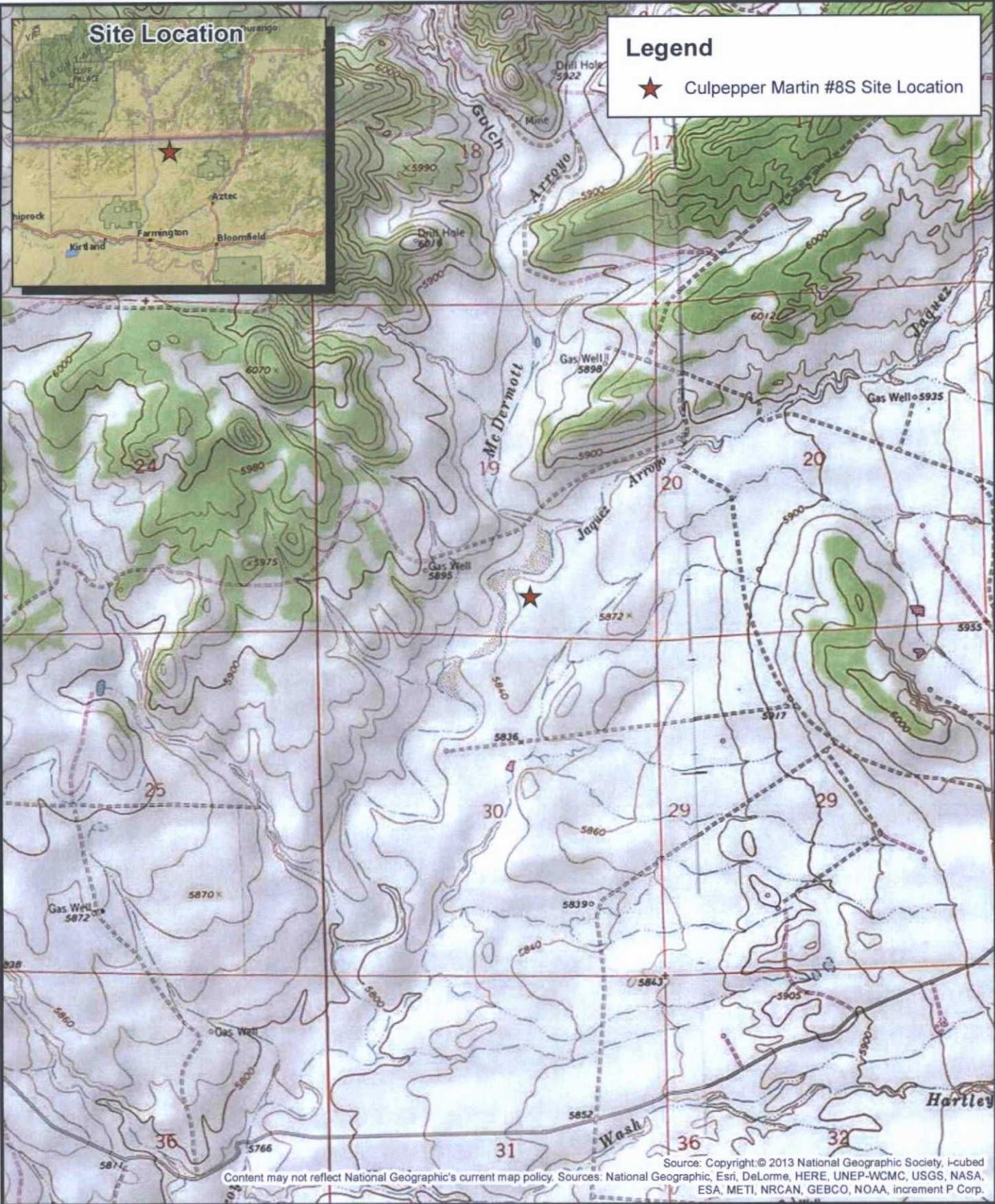
Notes: PID - photo-ionization detector  
 ppm - parts per million  
 mg/kg - milligrams/kilograms  
 VOCs - volatile organic compounds  
 TPH - total petroleum hydrocarbons per USEPA Method 418.1  
 BTEX - benzene, toluene, ethylbenzene, and total xylenes  
 \*19.15.17.13 NMAC  
 \*\*Per Hach chloride low-range test kit  
 \*\*\*Per USEPA Method 300.0 chlorides

Document Path: U:\ConocoPhillips\ConocoPhillips\Culpepper Martin 8S\Culpepper Martin 8S Topo Map.mxd



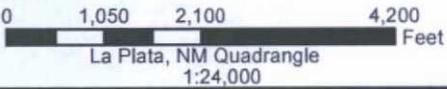
**Legend**

- ★ Culpepper Martin #8S Site Location



Source: Copyright © 2013 National Geographic Society, i-cubed  
 Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

**Rule Engineering, LLC**  
 Solutions to Regulations for Industry



**ConocoPhillips**

O-S19-T32N-R12W  
 N36.96611, W108.13414  
 San Juan County, NM  
 API: 30-045-34375

**Figure 1**  
**Topographic Map**  
 Culpepper Martin #8S

### Legend

-  Soil Sample Location
-  Wellhead
-  Berm

Culpepper Martin #8S  
GPS: N36.96640, W108.13389

Culpepper Martin #8B  
GPS: N36.96636, W108.13405

Below Grade Tank  
GPS: N36.96611, W108.13414

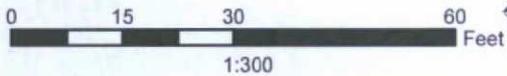
Separator

Telemetry

Meter Run

Source: Google Earth

**Rule** Engineering, LLC  
Solutions to Regulations for Industry



**ConocoPhillips**

O-S19-T32N-R12W  
N36.96611, W108.13414  
San Juan County, NM  
API: 30-045-34375

**Figure 2**  
**Aerial Site Map**  
Culpepper Martin #8S

**Rule Engineering Field Work Summary Sheet**

Company: ConocoPhillips  
 Location: Culpepper Martin #8S  
 API: 30-045-34375  
 Legals: O-S19-T32N-R12W  
 County: San Juan  
 Land Jurisdiction: Private

Date: 3/31/16  
 Staff: Justin Valdez

Wellhead GPS: 36.96640, -108.13389  
 BGT GPS: 36.96611, -108.13414

**Siting Information based on BGT Location:**

Site Rank **20**

Groundwater: Estimated to be less than 50 feet below grade surface, based on depth to groundwater of 5 feet reported in OSE registered well SJ 01212 located approximately 1.2 miles north of the Culpepper Martin #8S along the McDermitt Arroyo.

Surface Water: McDermitt Arroyo is located approximately 300 feet north and 430 feet west of the BGT which drains south to the La Plata River.

Wellhead Protection: No water wells identified within 1,000 ft of location.

Objective: Closure sampling for BGT  
 Tank Size: 120 barrels, removed during closure activities  
 Liner: Liner removed during closure activities  
 Observations: No staining or excess moisture was observed below the tank.  
 Notes: No NMOCD or BLM representatives were onsite during closure activities.

**Field Sampling Information**

Name	Type of Sample	Collection Time	Collection Location	VOCs <sup>1</sup> (ppm)	VOCs time	TPH <sup>2</sup> mg/kg	TPH Time	Chloride <sup>3</sup> mg/kg	Chloride Time
SC-1	Composite	10:10	See below	0.0	10:22	<20.0	10:35	20	10:30

SC-1 is a 5-point composite of S-1 through S-5, collected 0.5 ft below BGT.  
 Sample SC-1 was laboratory analyzed for TPH (418.1), BTEX (8021) and chlorides (300.0).



**Field Sampling Notes:**

- Field screening for volatile organic compounds (VOC) vapors was conducted with a photo-ionization detector (PID). Before beginning field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas.
- Field analysis for TPH was conducted using a total hydrocarbon analyzer. Prior to field analysis, the machine was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards.
- Field screening for chlorides was conducted using the Hach chloride low range test kit. Chloride concentrations are determined by drop count titration method using silver nitrate titrant.



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

April 08, 2016

Heather Woods  
Rule Engineering LLC  
501 Airport Dr., Ste 205  
Farmington, NM 87401  
TEL: (505) 325-1055  
FAX

RE: Culpepper Martin 8S

OrderNo.: 1604054

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/2/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

Analytical Report

Lab Order 1604054

Date Reported: 4/8/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-1

Project: Culpepper Martin 8S

Collection Date: 3/31/2016 10:10:00 AM

Lab ID: 1604054-001

Matrix: SOIL

Received Date: 4/2/2016 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>KJH</b>
Petroleum Hydrocarbons, TR	ND	18		mg/Kg	1	4/6/2016	24621
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	7.5		mg/Kg	5	4/5/2016 3:24:05 PM	24624
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Benzene	ND	0.023		mg/Kg	1	4/6/2016 12:22:52 PM	24628
Toluene	ND	0.046		mg/Kg	1	4/6/2016 12:22:52 PM	24628
Ethylbenzene	ND	0.046		mg/Kg	1	4/6/2016 12:22:52 PM	24628
Xylenes, Total	ND	0.092		mg/Kg	1	4/6/2016 12:22:52 PM	24628
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	4/6/2016 12:22:52 PM	24628

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1604054

08-Apr-16

**Client:** Rule Engineering LLC

**Project:** Culpepper Martin 8S

Sample ID	<b>MB-24624</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>24624</b>	RunNo:	<b>33339</b>					
Prep Date:	<b>4/5/2016</b>	Analysis Date:	<b>4/5/2016</b>	SeqNo:	<b>1024485</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-24624</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>24624</b>	RunNo:	<b>33339</b>					
Prep Date:	<b>4/5/2016</b>	Analysis Date:	<b>4/5/2016</b>	SeqNo:	<b>1024486</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

Sample ID	<b>1604044-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>BatchQC</b>	Batch ID:	<b>24624</b>	RunNo:	<b>33339</b>					
Prep Date:	<b>4/5/2016</b>	Analysis Date:	<b>4/5/2016</b>	SeqNo:	<b>1024497</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	29	1.5	15.00	12.80	106	64.2	131			

Sample ID	<b>1604044-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>BatchQC</b>	Batch ID:	<b>24624</b>	RunNo:	<b>33339</b>					
Prep Date:	<b>4/5/2016</b>	Analysis Date:	<b>4/5/2016</b>	SeqNo:	<b>1024498</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	30	1.5	15.00	12.80	112	64.2	131	2.96	20	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

**QC SUMMARY REPORT**  
**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1604054  
 08-Apr-16

**Client:** Rule Engineering LLC  
**Project:** Culpepper Martin 8S

Sample ID <b>MB-24621</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 418.1: TPH</b>							
Client ID: <b>PBS</b>	Batch ID: <b>24621</b>		RunNo: <b>33340</b>							
Prep Date: <b>4/5/2016</b>	Analysis Date: <b>4/6/2016</b>		SeqNo: <b>1024698</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID <b>LCS-24621</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 418.1: TPH</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>24621</b>		RunNo: <b>33340</b>							
Prep Date: <b>4/5/2016</b>	Analysis Date: <b>4/6/2016</b>		SeqNo: <b>1024699</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	103	83.4	127			

Sample ID <b>LCSD-24621</b>	SampType: <b>LCSD</b>		TestCode: <b>EPA Method 418.1: TPH</b>							
Client ID: <b>LCSS02</b>	Batch ID: <b>24621</b>		RunNo: <b>33340</b>							
Prep Date: <b>4/5/2016</b>	Analysis Date: <b>4/6/2016</b>		SeqNo: <b>1024700</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	107	83.4	127	4.02	20	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1604054

08-Apr-16

**Client:** Rule Engineering LLC

**Project:** Culpepper Martin 8S

Sample ID	1604054-001AMS		SampType: MS	TestCode: EPA Method 8021B: Volatiles						
Client ID:	SC-1		Batch ID: 24628	RunNo: 33358						
Prep Date:	4/5/2016		Analysis Date: 4/6/2016	SeqNo: 1025100	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9560	0	112	71.5	122			
Toluene	1.1	0.048	0.9560	0	110	71.2	123			
Ethylbenzene	1.0	0.048	0.9560	0	109	75.2	130			
Xylenes, Total	3.1	0.096	2.868	0	109	72.4	131			
Surr: 4-Bromofluorobenzene	1.1		0.9560		113	80	120			

Sample ID	1604054-001AMSD		SampType: MSD	TestCode: EPA Method 8021B: Volatiles						
Client ID:	SC-1		Batch ID: 24628	RunNo: 33358						
Prep Date:	4/5/2016		Analysis Date: 4/6/2016	SeqNo: 1025101	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9756	0	84.6	71.5	122	26.0	20	R
Toluene	0.89	0.049	0.9756	0	91.5	71.2	123	16.6	20	
Ethylbenzene	0.96	0.049	0.9756	0	98.9	75.2	130	7.99	20	
Xylenes, Total	2.9	0.098	2.927	0	101	72.4	131	5.86	20	
Surr: 4-Bromofluorobenzene	1.1		0.9756		111	80	120	0	0	

Sample ID	LCS-24628		SampType: LCS	TestCode: EPA Method 8021B: Volatiles						
Client ID:	LCSS		Batch ID: 24628	RunNo: 33358						
Prep Date:	4/5/2016		Analysis Date: 4/6/2016	SeqNo: 1025112	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.3	75.3	123			
Toluene	0.91	0.050	1.000	0	91.0	80	124			
Ethylbenzene	0.88	0.050	1.000	0	88.0	82.8	121			
Xylenes, Total	2.6	0.10	3.000	0	87.9	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120			

Sample ID	MB-24628		SampType: MBLK	TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBS		Batch ID: 24628	RunNo: 33358						
Prep Date:	4/5/2016		Analysis Date: 4/6/2016	SeqNo: 1025113	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87105  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1604054**

RcptNo: **1**

Received by/date:

*[Signature]*

04/02/16

Logged By: **Lindsay Mangin**

4/2/2016 9:05:00 AM

*[Signature]*

Completed By: **Lindsay Mangin**

4/4/2016 10:04:26 AM

*[Signature]*

Reviewed By:

*[Signature]* AS

04/04/16

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? Courier

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
  - 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
  - 6. Sample(s) in proper container(s)? Yes  No
  - 7. Sufficient sample volume for indicated test(s)? Yes  No
  - 8. Are samples (except VOA and ONG) properly preserved? Yes  No
  - 9. Was preservative added to bottles? Yes  No  NA
  - 10. VOA vials have zero headspace? Yes  No  No VOA Vials
  - 11. Were any sample containers received broken? Yes  No
  - 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
  - 13. Are matrices correctly identified on Chain of Custody? Yes  No
  - 14. Is it clear what analyses were requested? Yes  No
  - 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No
- # of preserved bottles checked for pH:   
 Adjusted? (**<2 or >12 unless noted**)  
 Checked by:

**Special Handling (if applicable)**

- 16. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			



